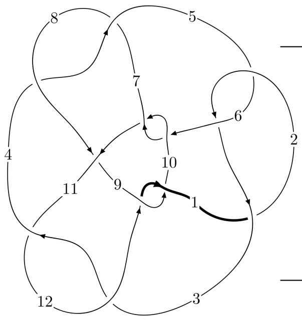
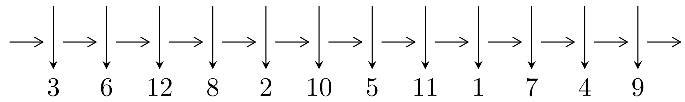
$12a_{0490}$ ($K12a_{0490}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

$$4{,}8 \xrightarrow[c_4]{} 5{,}11 \xrightarrow[c_8]{} 9 \xrightarrow[c_{11}]{} 12 \xrightarrow[c_{12}]{} 1 \xrightarrow[c_3]{} 3 \xrightarrow[c_7]{} 7 \xrightarrow[c_{10}]{} 10 \xrightarrow[c_6]{} 6 \xrightarrow[c_2]{} 2 \twoheadrightarrow c_1, c_5, c_9$$

Ideals for irreducible components[2] of $X_{\mathbf{par}}$

$$\begin{aligned}
I^u_1 = \langle & b - u, \\
& 250936582341786u^{28} - 122066524221929u^{27} + \cdots + 148804454046473a - 98424746117489, \\
& u^{29} - u^{28} + \cdots + 2u + 1\rangle \\
I^u_2 = \langle & -1.05564 \times 10^{344}u^{87} + 9.79310 \times 10^{344}u^{86} + \cdots + 1.52446 \times 10^{344}b + 3.97004 \times 10^{347}, \\
& -5.49731 \times 10^{346}u^{87} + 3.25834 \times 10^{347}u^{86} + \cdots + 1.25158 \times 10^{347}a + 5.74130 \times 10^{349}, \\
& u^{88} - 5u^{87} + \cdots + 3584u + 821\rangle \\
I^u_3 = \langle & b + u,\ -u^{11} + u^{10} - 7u^9 + 7u^8 - 22u^7 + 20u^6 - 38u^5 + 30u^4 - 36u^3 + 23u^2 + a - 16u + 7, \\
& u^{14} - u^{13} + 8u^{12} - 7u^{11} + 28u^{10} - 21u^9 + 55u^8 - 35u^7 + 64u^6 - 34u^5 + 42u^4 - 18u^3 + 12u^2 - 4u - 1\rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 131 representations.

[1]The image of knot diagram is generated by the software "**Draw programme**" developed by Andrew Bartholomew(`http://www.layer8.co.uk/maths/draw/index.htm#Running-draw`), where we modified some parts for our purpose(`https://github.com/CATsTAILs/LinksPainter`).

[2]All coefficients of polynomials are rational numbers. But the coefficients are sometimes approximated in decimal forms when there is not enough margin.

I. $I^u_1 = \langle b - u,\ 2.51 \times 10^{14} u^{28} - 1.22 \times 10^{14} u^{27} + \cdots + 1.49 \times 10^{14} a - 9.84 \times 10^{13},\ u^{29} - u^{28} + \cdots + 2u + 1 \rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -1.68635u^{28} + 0.820315u^{27} + \cdots - 0.162655u + 0.661437 \\ u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 2.67746u^{28} - 0.133672u^{27} + \cdots - 1.06713u + 0.714235 \\ -1.08667u^{28} - 0.0581082u^{27} + \cdots - 2.41842u - 0.866036 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -1.68635u^{28} + 0.820315u^{27} + \cdots - 1.16266u + 0.661437 \\ u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 2.38291u^{28} + 0.0817397u^{27} + \cdots - 2.92353u + 0.0907982 \\ -1.36536u^{28} + 0.339734u^{27} + \cdots - 2.62020u - 1.13818 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 0.866036u^{28} - 1.95270u^{27} + \cdots - 4.03414u - 0.686351 \\ -u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -1.40957u^{28} + 0.932959u^{27} + \cdots - 0.204858u + 0.940177 \\ 0.250397u^{28} - 0.395790u^{27} + \cdots - 0.0978403u - 0.110687 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -1.70921u^{28} + 1.67866u^{27} + \cdots + 6.16797u + 1.12970 \\ -0.197996u^{28} - 0.326044u^{27} + \cdots - 1.09569u - 0.941452 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 0.525755u^{28} - 0.0225068u^{27} + \cdots - 7.84043u - 1.04956 \\ -0.197996u^{28} - 0.326044u^{27} + \cdots - 1.09569u - 0.941452 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= \frac{566288427861444}{148804454046473}u^{28} - \frac{861558207456155}{148804454046473}u^{27} + \cdots - \frac{4146887141209843}{148804454046473}u - \frac{3721831975657214}{148804454046473}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{29}+11u^{28}+\cdots+4736u+256$
c_2, c_5	$u^{29}+11u^{28}+\cdots+192u+16$
c_3, c_4, c_7 c_{11}	$u^{29}-u^{28}+\cdots+2u+1$
c_6, c_9, c_{10} c_{12}	$u^{29}-u^{28}+\cdots+4u+1$
c_8	$u^{29}-28u^{28}+\cdots-6144u+2048$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{29} + 13y^{28} + \cdots + 9166848y - 65536$
c_2, c_5	$y^{29} - 11y^{28} + \cdots + 4736y - 256$
c_3, c_4, c_7 c_{11}	$y^{29} + 23y^{28} + \cdots + 20y - 1$
c_6, c_9, c_{10} c_{12}	$y^{29} - 21y^{28} + \cdots + 16y - 1$
c_8	$y^{29} - 4y^{28} + \cdots - 31457280y - 4194304$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.943671 + 0.254326I$ $a = 1.002260 - 0.565360I$ $b = 0.943671 + 0.254326I$	$-6.98851 + 7.38189I$	$-18.4807 - 4.8783I$
$u = 0.943671 - 0.254326I$ $a = 1.002260 + 0.565360I$ $b = 0.943671 - 0.254326I$	$-6.98851 - 7.38189I$	$-18.4807 + 4.8783I$
$u = -0.931114 + 0.157675I$ $a = -1.095410 - 0.365233I$ $b = -0.931114 + 0.157675I$	$-5.01123 - 1.88675I$	$-17.5811 + 0.8407I$
$u = -0.931114 - 0.157675I$ $a = -1.095410 + 0.365233I$ $b = -0.931114 - 0.157675I$	$-5.01123 + 1.88675I$	$-17.5811 - 0.8407I$
$u = -0.382213 + 0.987155I$ $a = -0.742302 - 0.002124I$ $b = -0.382213 + 0.987155I$	$1.88723 + 3.15225I$	$-8.02900 - 4.43437I$
$u = -0.382213 - 0.987155I$ $a = -0.742302 + 0.002124I$ $b = -0.382213 - 0.987155I$	$1.88723 - 3.15225I$	$-8.02900 + 4.43437I$
$u = 0.048532 + 1.085820I$ $a = -2.00236 - 1.54010I$ $b = 0.048532 + 1.085820I$	$0.49844 - 7.80036I$	$-10.28673 + 6.90769I$
$u = 0.048532 - 1.085820I$ $a = -2.00236 + 1.54010I$ $b = 0.048532 - 1.085820I$	$0.49844 + 7.80036I$	$-10.28673 - 6.90769I$
$u = 0.080324 + 1.107540I$ $a = 1.71771 - 0.28078I$ $b = 0.080324 + 1.107540I$	$4.67366 + 1.54454I$	$-5.37934 - 3.77559I$
$u = 0.080324 - 1.107540I$ $a = 1.71771 + 0.28078I$ $b = 0.080324 - 1.107540I$	$4.67366 - 1.54454I$	$-5.37934 + 3.77559I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.537814 + 0.473191I$ $a = 0.64181 + 1.26516I$ $b = 0.537814 + 0.473191I$	$-2.87090 + 3.41002I$	$-17.4789 - 2.4204I$
$u = 0.537814 - 0.473191I$ $a = 0.64181 - 1.26516I$ $b = 0.537814 - 0.473191I$	$-2.87090 - 3.41002I$	$-17.4789 + 2.4204I$
$u = 0.464520 + 1.279870I$ $a = 1.55204 - 0.50969I$ $b = 0.464520 + 1.279870I$	$-3.93836 - 8.89106I$	$-15.2442 + 6.9531I$
$u = 0.464520 - 1.279870I$ $a = 1.55204 + 0.50969I$ $b = 0.464520 - 1.279870I$	$-3.93836 + 8.89106I$	$-15.2442 - 6.9531I$
$u = -0.128639 + 1.359520I$ $a = -0.86220 - 2.02768I$ $b = -0.128639 + 1.359520I$	$5.82172 + 4.48234I$	$-14.8090 - 6.0213I$
$u = -0.128639 - 1.359520I$ $a = -0.86220 + 2.02768I$ $b = -0.128639 - 1.359520I$	$5.82172 - 4.48234I$	$-14.8090 + 6.0213I$
$u = 0.254997 + 1.384100I$ $a = 0.889760 - 0.491762I$ $b = 0.254997 + 1.384100I$	$9.13257 - 0.76587I$	$-4.66197 - 1.18942I$
$u = 0.254997 - 1.384100I$ $a = 0.889760 + 0.491762I$ $b = 0.254997 - 1.384100I$	$9.13257 + 0.76587I$	$-4.66197 + 1.18942I$
$u = -0.33115 + 1.41930I$ $a = -0.822163 - 0.477668I$ $b = -0.33115 + 1.41930I$	$8.79150 + 6.45231I$	$-4.82568 - 4.60766I$
$u = -0.33115 - 1.41930I$ $a = -0.822163 + 0.477668I$ $b = -0.33115 - 1.41930I$	$8.79150 - 6.45231I$	$-4.82568 + 4.60766I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.497017 + 0.157040I$ $a = 2.59708 - 1.03005I$ $b = 0.497017 + 0.157040I$	$-10.64620 - 0.03192I$	$-29.1555 + 7.5854I$
$u = 0.497017 - 0.157040I$ $a = 2.59708 + 1.03005I$ $b = 0.497017 - 0.157040I$	$-10.64620 + 0.03192I$	$-29.1555 - 7.5854I$
$u = -0.51917 + 1.42010I$ $a = -1.160960 - 0.482236I$ $b = -0.51917 + 1.42010I$	$3.16273 + 12.79870I$	$-10.04451 - 6.89203I$
$u = -0.51917 - 1.42010I$ $a = -1.160960 + 0.482236I$ $b = -0.51917 - 1.42010I$	$3.16273 - 12.79870I$	$-10.04451 + 6.89203I$
$u = 0.57303 + 1.43212I$ $a = 1.124520 - 0.387229I$ $b = 0.57303 + 1.43212I$	$0.7116 - 19.0153I$	$-12.0000 + 9.9067I$
$u = 0.57303 - 1.43212I$ $a = 1.124520 + 0.387229I$ $b = 0.57303 - 1.43212I$	$0.7116 + 19.0153I$	$-12.0000 - 9.9067I$
$u = -0.441008 + 0.034064I$ $a = 0.225680 + 0.493763I$ $b = -0.441008 + 0.034064I$	$-0.743051 + 0.035864I$	$-12.27916 + 0.21691I$
$u = -0.441008 - 0.034064I$ $a = 0.225680 - 0.493763I$ $b = -0.441008 - 0.034064I$	$-0.743051 - 0.035864I$	$-12.27916 - 0.21691I$
$u = -0.333214$ $a = 0.869115$ $b = -0.333214$	-0.737681	-13.2750

II. $\boldsymbol{I_2^u = \langle -1.06 \times 10^{344} u^{87} + 9.79 \times 10^{344} u^{86} + \cdots + 1.52 \times 10^{344} b + 3.97 \times 10^{347},\ -5.50 \times 10^{346} u^{87} + 3.26 \times 10^{347} u^{86} + \cdots + 1.25 \times 10^{347} a + 5.74 \times 10^{349},\ u^{88} - 5u^{87} + \cdots + 3584u + 821 \rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0.439229u^{87} - 2.60338u^{86} + \cdots - 1546.53u - 458.724 \\ 0.692469u^{87} - 6.42398u^{86} + \cdots - 11147.5u - 2604.23 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -0.518913u^{87} + 1.96411u^{86} + \cdots - 2137.91u - 428.380 \\ 0.867957u^{87} - 4.16018u^{86} + \cdots + 1075.10u + 82.6704 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -0.253240u^{87} + 3.82061u^{86} + \cdots + 9601.01u + 2145.50 \\ 0.692469u^{87} - 6.42398u^{86} + \cdots - 11147.5u - 2604.23 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -0.0184597u^{87} + 2.48755u^{86} + \cdots + 9882.72u + 2145.17 \\ 0.231469u^{87} - 3.79527u^{86} + \cdots - 10084.6u - 2265.64 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -12.5530u^{87} + 62.9597u^{86} + \cdots - 3353.00u + 1681.05 \\ 12.4523u^{87} - 61.5883u^{86} + \cdots + 6410.79u - 966.838 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -0.564831u^{87} + 5.00806u^{86} + \cdots + 8142.29u + 1879.73 \\ 1.00653u^{87} - 7.68993u^{86} + \cdots - 9921.01u - 2393.09 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -1.49311u^{87} + 18.0746u^{86} + \cdots + 41278.3u + 9450.89 \\ 2.02163u^{87} - 20.5931u^{86} + \cdots - 40530.9u - 9364.41 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -6.88891u^{87} + 31.1111u^{86} + \cdots - 14992.8u - 1995.33 \\ 7.09278u^{87} - 32.1612u^{86} + \cdots + 14767.1u + 1898.83 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -27.8190u^{87} + 141.290u^{86} + \cdots + 723.380u + 5434.35$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^{44}+20u^{43}+\cdots-16u+1)^2$
c_2, c_5	$(u^{44}-4u^{43}+\cdots-6u+1)^2$
c_3, c_4, c_7 c_{11}	$u^{88}-5u^{87}+\cdots+3584u+821$
c_6, c_9, c_{10} c_{12}	$u^{88}-7u^{87}+\cdots+6072u+2143$
c_8	$(u^{44}+13u^{43}+\cdots+2u+1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^{44} + 12y^{43} + \cdots - 304y + 1)^2$
c_2, c_5	$(y^{44} - 20y^{43} + \cdots + 16y + 1)^2$
c_3, c_4, c_7 c_{11}	$y^{88} + 63y^{87} + \cdots + 24336392y + 674041$
c_6, c_9, c_{10} c_{12}	$y^{88} - 53y^{87} + \cdots - 51150136y + 4592449$
c_8	$(y^{44} + 11y^{43} + \cdots + 18y + 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.395638 + 0.897674I$ $a = -0.966465 + 0.057775I$ $b = -0.889235 + 0.045072I$	$-1.85154 - 1.07596I$	0
$u = 0.395638 - 0.897674I$ $a = -0.966465 - 0.057775I$ $b = -0.889235 - 0.045072I$	$-1.85154 + 1.07596I$	0
$u = 0.073867 + 0.973400I$ $a = 0.201414 - 0.380588I$ $b = 1.09574 + 3.02407I$	$0.24162 + 2.29469I$	0
$u = 0.073867 - 0.973400I$ $a = 0.201414 + 0.380588I$ $b = 1.09574 - 3.02407I$	$0.24162 - 2.29469I$	0
$u = 0.073294 + 0.968958I$ $a = -0.480856 - 0.007306I$ $b = -1.96092 + 1.07676I$	$-0.04172 - 1.45400I$	0
$u = 0.073294 - 0.968958I$ $a = -0.480856 + 0.007306I$ $b = -1.96092 - 1.07676I$	$-0.04172 + 1.45400I$	0
$u = -0.038949 + 1.035690I$ $a = 0.343018 - 0.118947I$ $b = 2.59996 + 1.95864I$	$-0.35467 - 2.14659I$	0
$u = -0.038949 - 1.035690I$ $a = 0.343018 + 0.118947I$ $b = 2.59996 - 1.95864I$	$-0.35467 + 2.14659I$	0
$u = 0.955388 + 0.102547I$ $a = 0.855043 - 0.861822I$ $b = 0.405184 - 1.151540I$	$-7.65072 + 3.83591I$	0
$u = 0.955388 - 0.102547I$ $a = 0.855043 + 0.861822I$ $b = 0.405184 + 1.151540I$	$-7.65072 - 3.83591I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.834509 + 0.426099I$ $a = -0.262631 + 0.915377I$ $b = -0.240202 + 0.346289I$	$-2.67980 + 3.03789I$	0
$u = 0.834509 - 0.426099I$ $a = -0.262631 - 0.915377I$ $b = -0.240202 - 0.346289I$	$-2.67980 - 3.03789I$	0
$u = 0.050002 + 1.064780I$ $a = 0.65309 + 1.56196I$ $b = 0.03049 - 1.42468I$	$3.12667 - 3.60717I$	0
$u = 0.050002 - 1.064780I$ $a = 0.65309 - 1.56196I$ $b = 0.03049 + 1.42468I$	$3.12667 + 3.60717I$	0
$u = 0.055190 + 1.073230I$ $a = -1.52665 + 1.47024I$ $b = -0.213176 - 1.345590I$	$4.81705 - 2.76241I$	0
$u = 0.055190 - 1.073230I$ $a = -1.52665 - 1.47024I$ $b = -0.213176 + 1.345590I$	$4.81705 + 2.76241I$	0
$u = -0.889235 + 0.045072I$ $a = 0.439046 + 0.972185I$ $b = 0.395638 + 0.897674I$	$-1.85154 - 1.07596I$	0
$u = -0.889235 - 0.045072I$ $a = 0.439046 - 0.972185I$ $b = 0.395638 - 0.897674I$	$-1.85154 + 1.07596I$	0
$u = 0.647480 + 0.909082I$ $a = 0.024179 + 0.846346I$ $b = -0.199072 - 0.252945I$	$-2.15599 - 3.18535I$	0
$u = 0.647480 - 0.909082I$ $a = 0.024179 - 0.846346I$ $b = -0.199072 + 0.252945I$	$-2.15599 + 3.18535I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.178775+0.837971I$ $a=-0.319898+0.723642I$ $b=-0.592632-0.388560I$	$-0.386166-0.237422I$	0
$u=-0.178775-0.837971I$ $a=-0.319898-0.723642I$ $b=-0.592632+0.388560I$	$-0.386166+0.237422I$	0
$u=-0.328506+1.104140I$ $a=-0.095113+0.833518I$ $b=\ \ 0.015522-0.689347I$	$-0.747511-0.306015I$	0
$u=-0.328506-1.104140I$ $a=-0.095113-0.833518I$ $b=\ \ 0.015522+0.689347I$	$-0.747511+0.306015I$	0
$u=-0.100279+0.833670I$ $a=\ \ 2.36321-0.00085I$ $b=\ \ 0.447405-1.151160I$	$-0.63675+7.68993I$	0
$u=-0.100279-0.833670I$ $a=\ \ 2.36321+0.00085I$ $b=\ \ 0.447405+1.151160I$	$-0.63675-7.68993I$	0
$u=-1.153470+0.179310I$ $a=-0.747986+0.443896I$ $b=-0.486604+1.201200I$	$-1.78617+6.93892I$	0
$u=-1.153470-0.179310I$ $a=-0.747986-0.443896I$ $b=-0.486604-1.201200I$	$-1.78617-6.93892I$	0
$u=-0.701991+0.444562I$ $a=\ \ 1.17696-0.84810I$ $b=\ \ 0.516282-1.154410I$	$-0.31349+8.13644I$	0
$u=-0.701991-0.444562I$ $a=\ \ 1.17696+0.84810I$ $b=\ \ 0.516282+1.154410I$	$-0.31349-8.13644I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.024127 + 1.204100I$ $a = 0.686741 + 0.070014I$ $b = 0.304156 + 0.429506I$	$3.28142 + 1.60364I$	0
$u = -0.024127 - 1.204100I$ $a = 0.686741 - 0.070014I$ $b = 0.304156 - 0.429506I$	$3.28142 - 1.60364I$	0
$u = 0.405184 + 1.151540I$ $a = 0.814636 - 0.499504I$ $b = 0.955388 - 0.102547I$	$-7.65072 - 3.83591I$	0
$u = 0.405184 - 1.151540I$ $a = 0.814636 + 0.499504I$ $b = 0.955388 + 0.102547I$	$-7.65072 + 3.83591I$	0
$u = -0.383405 + 1.159460I$ $a = 0.861897 - 0.051187I$ $b = 0.508261 - 0.130931I$	$2.08931 + 3.53746I$	0
$u = -0.383405 - 1.159460I$ $a = 0.861897 + 0.051187I$ $b = 0.508261 + 0.130931I$	$2.08931 - 3.53746I$	0
$u = 0.447405 + 1.151160I$ $a = -1.55621 - 0.39958I$ $b = -0.100279 - 0.833670I$	$-0.63675 - 7.68993I$	0
$u = 0.447405 - 1.151160I$ $a = -1.55621 + 0.39958I$ $b = -0.100279 + 0.833670I$	$-0.63675 + 7.68993I$	0
$u = -0.333877 + 1.193500I$ $a = -0.578142 + 0.203628I$ $b = -0.095833 + 0.719086I$	$2.00913 + 3.28257I$	0
$u = -0.333877 - 1.193500I$ $a = -0.578142 - 0.203628I$ $b = -0.095833 - 0.719086I$	$2.00913 - 3.28257I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.516282 + 1.154410I$ $a = -0.952479 - 0.036873I$ $b = -0.701991 - 0.444562I$	$-0.31349 - 8.13644I$	0
$u = 0.516282 - 1.154410I$ $a = -0.952479 + 0.036873I$ $b = -0.701991 + 0.444562I$	$-0.31349 + 8.13644I$	0
$u = -0.095833 + 0.719086I$ $a = -1.026620 + 0.206353I$ $b = -0.333877 + 1.193500I$	$2.00913 + 3.28257I$	$-12.00000 + 0.I$
$u = -0.095833 - 0.719086I$ $a = -1.026620 - 0.206353I$ $b = -0.333877 - 1.193500I$	$2.00913 - 3.28257I$	$-12.00000 + 0.I$
$u = 0.510456 + 1.178910I$ $a = 0.717263 - 0.320490I$ $b = 1.301060 + 0.116336I$	$-4.09684 - 12.57490I$	0
$u = 0.510456 - 1.178910I$ $a = 0.717263 + 0.320490I$ $b = 1.301060 - 0.116336I$	$-4.09684 + 12.57490I$	0
$u = -0.592632 + 0.388560I$ $a = 0.955615 - 0.044076I$ $b = -0.178775 - 0.837971I$	$-0.386166 + 0.237422I$	$-12.00000 + 0.I$
$u = -0.592632 - 0.388560I$ $a = 0.955615 + 0.044076I$ $b = -0.178775 + 0.837971I$	$-0.386166 - 0.237422I$	$-12.00000 + 0.I$
$u = -0.486604 + 1.201200I$ $a = -0.688975 - 0.372898I$ $b = -1.153470 + 0.179310I$	$-1.78617 + 6.93892I$	0
$u = -0.486604 - 1.201200I$ $a = -0.688975 + 0.372898I$ $b = -1.153470 - 0.179310I$	$-1.78617 - 6.93892I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.301060 + 0.116336I$ $a = 0.613773 + 0.469300I$ $b = 0.510456 + 1.178910I$	$-4.09684 - 12.57490I$	0
$u = 1.301060 - 0.116336I$ $a = 0.613773 - 0.469300I$ $b = 0.510456 - 1.178910I$	$-4.09684 + 12.57490I$	0
$u = 0.015522 + 0.689347I$ $a = 0.520249 + 1.301450I$ $b = -0.328506 - 1.104140I$	$-0.747511 + 0.306015I$	$-12.00000 + 0.I$
$u = 0.015522 - 0.689347I$ $a = 0.520249 - 1.301450I$ $b = -0.328506 + 1.104140I$	$-0.747511 - 0.306015I$	$-12.00000 + 0.I$
$u = 0.285680 + 1.286210I$ $a = -1.097630 + 0.495754I$ $b = -0.56605 - 1.46741I$	$6.43432 - 6.56301I$	0
$u = 0.285680 - 1.286210I$ $a = -1.097630 - 0.495754I$ $b = -0.56605 + 1.46741I$	$6.43432 + 6.56301I$	0
$u = -0.213176 + 1.345590I$ $a = 1.31992 + 1.02616I$ $b = 0.055190 - 1.073230I$	$4.81705 + 2.76241I$	0
$u = -0.213176 - 1.345590I$ $a = 1.31992 - 1.02616I$ $b = 0.055190 + 1.073230I$	$4.81705 - 2.76241I$	0
$u = -0.491215 + 1.284550I$ $a = 1.058670 + 0.203604I$ $b = 0.680102 - 1.206280I$	$1.92815 + 6.09693I$	0
$u = -0.491215 - 1.284550I$ $a = 1.058670 - 0.203604I$ $b = 0.680102 + 1.206280I$	$1.92815 - 6.09693I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.680102+1.206280I$ $a=-1.069720+0.044812I$ $b=-0.491215-1.284550I$	$1.92815-6.09693I$	0
$u = 0.680102-1.206280I$ $a=-1.069720-0.044812I$ $b=-0.491215+1.284550I$	$1.92815+6.09693I$	0
$u=-0.328429+1.350810I$ $a= 1.008230+0.432064I$ $b= 0.66120-1.48553I$	$4.98438+11.81130I$	0
$u=-0.328429-1.350810I$ $a= 1.008230-0.432064I$ $b= 0.66120+1.48553I$	$4.98438-11.81130I$	0
$u= 0.03049+1.42468I$ $a=-0.567160+1.132320I$ $b= 0.050002-1.064780I$	$3.12667+3.60717I$	0
$u= 0.03049-1.42468I$ $a=-0.567160-1.132320I$ $b= 0.050002+1.064780I$	$3.12667-3.60717I$	0
$u=-0.326282+0.449657I$ $a=-1.29823-1.02321I$ $b=-0.31384+1.56248I$	$0.36905+2.88717I$	$-18.5219-5.6422I$
$u=-0.326282-0.449657I$ $a=-1.29823+1.02321I$ $b=-0.31384-1.56248I$	$0.36905-2.88717I$	$-18.5219+5.6422I$
$u= 0.304156+0.429506I$ $a= 1.16885+1.06258I$ $b=-0.024127+1.204100I$	$3.28142+1.60364I$	$-4.45910-2.86227I$
$u= 0.304156-0.429506I$ $a= 1.16885-1.06258I$ $b=-0.024127-1.204100I$	$3.28142-1.60364I$	$-4.45910+2.86227I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.508261 + 0.130931I$ $a = -0.98451 - 1.75118I$ $b = -0.383405 - 1.159460I$	$2.08931 - 3.53746I$	$-7.63620 + 3.64913I$
$u = 0.508261 - 0.130931I$ $a = -0.98451 + 1.75118I$ $b = -0.383405 + 1.159460I$	$2.08931 + 3.53746I$	$-7.63620 - 3.64913I$
$u = -0.56605 + 1.46741I$ $a = 0.971128 + 0.273618I$ $b = 0.285680 - 1.286210I$	$6.43432 + 6.56301I$	0
$u = -0.56605 - 1.46741I$ $a = 0.971128 - 0.273618I$ $b = 0.285680 + 1.286210I$	$6.43432 - 6.56301I$	0
$u = -0.240202 + 0.346289I$ $a = 2.09505 + 0.30603I$ $b = 0.834509 + 0.426099I$	$-2.67980 + 3.03789I$	$-17.8249 - 5.9672I$
$u = -0.240202 - 0.346289I$ $a = 2.09505 - 0.30603I$ $b = 0.834509 - 0.426099I$	$-2.67980 - 3.03789I$	$-17.8249 + 5.9672I$
$u = -0.31384 + 1.56248I$ $a = -0.262929 - 0.512752I$ $b = -0.326282 + 0.449657I$	$0.36905 + 2.88717I$	0
$u = -0.31384 - 1.56248I$ $a = -0.262929 + 0.512752I$ $b = -0.326282 - 0.449657I$	$0.36905 - 2.88717I$	0
$u = 0.66120 + 1.48553I$ $a = -0.914234 + 0.208865I$ $b = -0.328429 - 1.350810I$	$4.98438 - 11.81130I$	0
$u = 0.66120 - 1.48553I$ $a = -0.914234 - 0.208865I$ $b = -0.328429 + 1.350810I$	$4.98438 + 11.81130I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.199072+0.252945I$ $a=0.05673+2.93523I$ $b=0.647480-0.909082I$	$-2.15599+3.18535I$	$-16.4226-4.3884I$
$u=-0.199072-0.252945I$ $a=0.05673-2.93523I$ $b=0.647480+0.909082I$	$-2.15599-3.18535I$	$-16.4226+4.3884I$
$u=-1.96092+1.07676I$ $a=-0.089326+0.188830I$ $b=0.073294+0.968958I$	$-0.04172-1.45400I$	0
$u=-1.96092-1.07676I$ $a=-0.089326-0.188830I$ $b=0.073294-0.968958I$	$-0.04172+1.45400I$	0
$u=1.09574+3.02407I$ $a=0.0899031-0.0948497I$ $b=0.073867+0.973400I$	$0.24162+2.29469I$	0
$u=1.09574-3.02407I$ $a=0.0899031+0.0948497I$ $b=0.073867-0.973400I$	$0.24162-2.29469I$	0
$u=2.59996+1.95864I$ $a=0.0934743+0.0680048I$ $b=-0.038949+1.035690I$	$-0.35467-2.14659I$	0
$u=2.59996-1.95864I$ $a=0.0934743-0.0680048I$ $b=-0.038949-1.035690I$	$-0.35467+2.14659I$	0

III. $I_3^u = \langle b+u,\ -u^{11}+u^{10}+\cdots+a+7,\ u^{14}-u^{13}+\cdots-4u-1\rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_8 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_5 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}u^{11}-u^{10}+\cdots+16u-7\\-u\end{pmatrix}$$
$$a_9 = \begin{pmatrix}-4u^{13}+4u^{12}+\cdots-24u+11\\u^{13}-u^{12}+\cdots-7u^2+u\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}u^{11}-u^{10}+\cdots+17u-7\\-u\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-4u^{13}+4u^{12}+\cdots-23u+11\\u^{13}-2u^{12}+\cdots-10u^2+u\end{pmatrix}$$
$$a_3 = \begin{pmatrix}u^{12}-u^{11}+\cdots-7u+1\\-u^2\end{pmatrix}$$
$$a_7 = \begin{pmatrix}u\\u^3+u\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}u^{12}+5u^{10}+\cdots+15u-7\\-u^{12}+u^{11}+\cdots+2u+1\end{pmatrix}$$
$$a_6 = \begin{pmatrix}u^{13}-2u^{12}+\cdots+31u-10\\u^{12}-u^{11}+\cdots+7u^2-2u\end{pmatrix}$$
$$a_2 = \begin{pmatrix}-2u^{13}+3u^{12}+\cdots-30u+12\\-u^{12}+u^{11}+\cdots-7u^2+2u\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes
$= -4u^{13}-u^{12}-28u^{11}-7u^{10}-82u^9-27u^8-130u^7-53u^6-119u^5-45u^4-66u^3-5u^2-23u+6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{14} - 6u^{13} + \cdots - 13u + 1$
c_2	$u^{14} + 2u^{13} + \cdots + 3u + 1$
c_3, c_7	$u^{14} + u^{13} + \cdots + 4u - 1$
c_4, c_{11}	$u^{14} - u^{13} + \cdots - 4u - 1$
c_5	$u^{14} - 2u^{13} + \cdots - 3u + 1$
c_6, c_9	$u^{14} - u^{13} + \cdots + 6u^2 - 1$
c_8	$u^{14} - 9u^{13} + \cdots + 15u - 1$
c_{10}, c_{12}	$u^{14} + u^{13} + \cdots + 6u^2 - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{14}+10y^{13}+\cdots-21y+1$
c_2, c_5	$y^{14}-6y^{13}+\cdots-13y+1$
c_3, c_4, c_7 c_{11}	$y^{14}+15y^{13}+\cdots-40y+1$
c_6, c_9, c_{10} c_{12}	$y^{14}-13y^{13}+\cdots-12y+1$
c_8	$y^{14}-5y^{13}+\cdots-29y+1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.494303 + 0.948206I$ $a = -0.338246 + 0.404754I$ $b = -0.494303 - 0.948206I$	$1.02409 - 2.16166I$	$-11.75755 + 0.70501I$
$u = 0.494303 - 0.948206I$ $a = -0.338246 - 0.404754I$ $b = -0.494303 + 0.948206I$	$1.02409 + 2.16166I$	$-11.75755 - 0.70501I$
$u = -0.403796 + 1.012310I$ $a = 1.96277 - 0.70590I$ $b = 0.403796 - 1.012310I$	$-0.83998 + 9.12624I$	$-13.7432 - 11.8895I$
$u = -0.403796 - 1.012310I$ $a = 1.96277 + 0.70590I$ $b = 0.403796 + 1.012310I$	$-0.83998 - 9.12624I$	$-13.7432 + 11.8895I$
$u = -0.385160 + 1.187760I$ $a = 0.204583 + 0.322059I$ $b = 0.385160 - 1.187760I$	$0.46872 - 2.66919I$	$-10.42920 + 4.04963I$
$u = -0.385160 - 1.187760I$ $a = 0.204583 - 0.322059I$ $b = 0.385160 + 1.187760I$	$0.46872 + 2.66919I$	$-10.42920 - 4.04963I$
$u = 0.141069 + 1.315050I$ $a = -1.06420 + 2.01626I$ $b = -0.141069 - 1.315050I$	$6.31414 - 4.36226I$	$1.13088 + 3.35215I$
$u = 0.141069 - 1.315050I$ $a = -1.06420 - 2.01626I$ $b = -0.141069 + 1.315050I$	$6.31414 + 4.36226I$	$1.13088 - 3.35215I$
$u = 0.569251 + 1.216470I$ $a = -1.045770 + 0.078978I$ $b = -0.569251 - 1.216470I$	$3.10148 - 6.42639I$	$-6.16249 + 6.22632I$
$u = 0.569251 - 1.216470I$ $a = -1.045770 - 0.078978I$ $b = -0.569251 + 1.216470I$	$3.10148 + 6.42639I$	$-6.16249 - 6.22632I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.080538 + 1.411260I$ $a = 0.032468 + 0.269326I$ $b = 0.080538 - 1.411260I$	$-0.61736 + 1.76932I$	$-9.28138 - 4.00219I$
$u = -0.080538 - 1.411260I$ $a = 0.032468 - 0.269326I$ $b = 0.080538 + 1.411260I$	$-0.61736 - 1.76932I$	$-9.28138 + 4.00219I$
$u = 0.484377$ $a = -1.32520$ $b = -0.484377$	-1.88989	-21.1800
$u = -0.154632$ $a = -10.1780$ $b = 0.154632$	-10.4326	9.66530

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{14}-6u^{13}+\cdots-13u+1)(u^{29}+11u^{28}+\cdots+4736u+256)$ $\cdot(u^{44}+20u^{43}+\cdots-16u+1)^2$
c_2	$(u^{14}+2u^{13}+\cdots+3u+1)(u^{29}+11u^{28}+\cdots+192u+16)$ $\cdot(u^{44}-4u^{43}+\cdots-6u+1)^2$
c_3, c_7	$(u^{14}+u^{13}+\cdots+4u-1)(u^{29}-u^{28}+\cdots+2u+1)$ $\cdot(u^{88}-5u^{87}+\cdots+3584u+821)$
c_4, c_{11}	$(u^{14}-u^{13}+\cdots-4u-1)(u^{29}-u^{28}+\cdots+2u+1)$ $\cdot(u^{88}-5u^{87}+\cdots+3584u+821)$
c_5	$(u^{14}-2u^{13}+\cdots-3u+1)(u^{29}+11u^{28}+\cdots+192u+16)$ $\cdot(u^{44}-4u^{43}+\cdots-6u+1)^2$
c_6, c_9	$(u^{14}-u^{13}+\cdots+6u^2-1)(u^{29}-u^{28}+\cdots+4u+1)$ $\cdot(u^{88}-7u^{87}+\cdots+6072u+2143)$
c_8	$(u^{14}-9u^{13}+\cdots+15u-1)(u^{29}-28u^{28}+\cdots-6144u+2048)$ $\cdot(u^{44}+13u^{43}+\cdots+2u+1)^2$
c_{10}, c_{12}	$(u^{14}+u^{13}+\cdots+6u^2-1)(u^{29}-u^{28}+\cdots+4u+1)$ $\cdot(u^{88}-7u^{87}+\cdots+6072u+2143)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{14} + 10y^{13} + \cdots - 21y + 1)(y^{29} + 13y^{28} + \cdots + 9166848y - 65536)$ $\cdot (y^{44} + 12y^{43} + \cdots - 304y + 1)^2$
c_2, c_5	$(y^{14} - 6y^{13} + \cdots - 13y + 1)(y^{29} - 11y^{28} + \cdots + 4736y - 256)$ $\cdot (y^{44} - 20y^{43} + \cdots + 16y + 1)^2$
c_3, c_4, c_7 c_{11}	$(y^{14} + 15y^{13} + \cdots - 40y + 1)(y^{29} + 23y^{28} + \cdots + 20y - 1)$ $\cdot (y^{88} + 63y^{87} + \cdots + 24336392y + 674041)$
c_6, c_9, c_{10} c_{12}	$(y^{14} - 13y^{13} + \cdots - 12y + 1)(y^{29} - 21y^{28} + \cdots + 16y - 1)$ $\cdot (y^{88} - 53y^{87} + \cdots - 51150136y + 4592449)$
c_8	$(y^{14} - 5y^{13} + \cdots - 29y + 1)$ $\cdot (y^{29} - 4y^{28} + \cdots - 31457280y - 4194304)$ $\cdot (y^{44} + 11y^{43} + \cdots + 18y + 1)^2$